Nova Scotia
Minerals Update
Department of Natural Resources, Mineral Resources Branch

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In This Issue

Mining Matters 2005

A New Geological Map of Nova Scotia

Mining Matters for Nova Scotia 2005: Program

Geological Services Division Welcomes Back John MacNeil

July - September Open Assessment Reports

DNR Participates in 62nd Annual Mines Ministers' Conference

First Atlantic Stone Carving Symposium a Great Success

Dates to Remember

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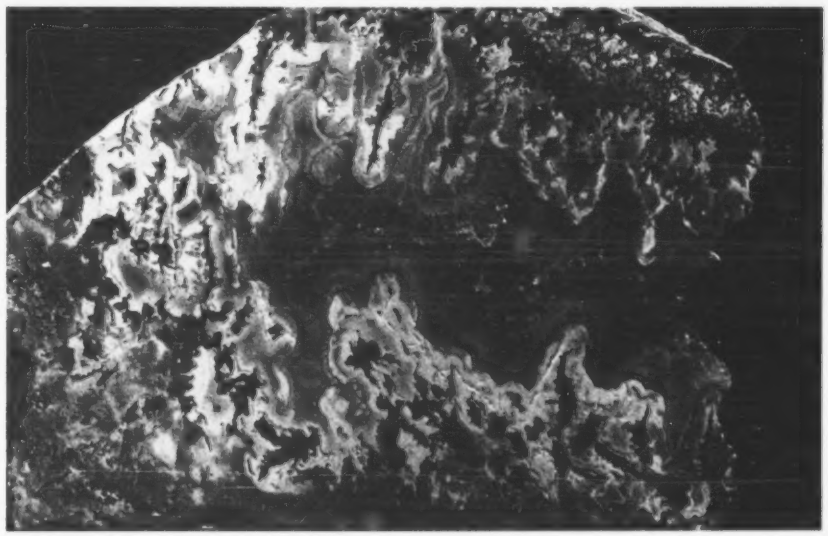
NOVA SCOTIA
Natural Resources

Mining Matters 2005

Final planning is underway for the 2005 Mining Matters conference, slated for the Westin Nova Scotian Hotel in Halifax on November 9 and 10. The conference will have a wide range of special features that are sure to be of interest to a broad spectrum of delegates (see Program on pages 4 and 5).

Exhibits this year will include an impressive display of fossils and mineral specimens from the collections of the Nova Scotia Museum of Natural History. This is sure to be of interest to amateur and professional collectors, and enthusiasts. Nova Scotia fossils are currently in the limelight because of the initiative to have the Joggins fossil cliffs designated as a UNESCO World Heritage site (see v. 22, no. 3). Conference organizers are also working to have a display of stone sculptures from the recent Atlantic Stone Carving Symposium held in Inverness (see article on p. 8). Once again this year, the Nova Scotia Prospectors Association will have an interactive exhibit where delegates can learn about modern and historical prospecting techniques.

Luncheons are planned for both days of the conference. On Wednesday, November 9, delegates will have the opportunity to hear Dr. Elizabeth Kosters deliver a presentation entitled *Geological and Cultural Ingredients of the Katrina Catastrophe*. On Thursday, November 10, speaker Tim Bernard will deliver a presentation on the Debert first-peoples archaeological site, where circa 12,000-11,000 year old artifacts have been discovered. The Debert site gives insight into the earliest-known inhabitants of Nova Scotia.



Amethyst-filled cavities in a specimen of North Mountain Basalt. Photo by Shirley Robb, Communications Nova Scotia.

Aerial view of mining operations at the Pioneer Coal Limited mine in Steliarton, Pictou County. Nova Scotia is a mining province.

The technical session on the morning of November 9 will focus on the gold potential of southern Nova Scotia. The session will be hosted by the Mining Society of Nova Scotia and will feature presentations by Acadian Gold Corporation and Orex Explorations Inc. that will give delegates the latest information on current exploration and development projects. There is currently a lot of optimism that these projects may lead to the development of future gold mines in the province. The afternoon technical session on November 9 will feature several presentations on exploration in glaciated terrains.

Last year's field trip included a stop at the former East Kemptville tin mine, where mineralized outcrop abounds.

The Hon. Richard Hurlburt, Minister of Natural Resources, will host an evening reception on November 9 from 5:00 to 7:00 pm in the Commonwealth A Ballroom. The reception will feature the silky sounds of the Gordon Fader Trio, along with commercial and scientific displays.

Sessions on Thursday morning (Nov. 10) will highlight geoscientific research into several geohazards, including naturally occurring uranium and radon in the environment, mercury and arsenic in rocks and tailings, and landslides in Cape Breton Island.

Following the conference, Dan Kontak and Rick Horne will host interested delegates on a field tour entitled *A Visit to the Jurassic Park of Southern Nova Scotia: Volcanological Wonders of the North Mountain Basalt*. The trip will include visits to several locations where thick volcanic flows are exposed along the shores of the Bay of Fundy. These rocks have long been known to host fine mineral specimens including amethyst, agate and mordenite, named after the hamlet of Morden, Kings County.

For more information visit the conference website at http://www.gov.ns.ca/natr/meb/oh/index.htm .

Mike MacDonald

A New Geological Map of Nova Scotia

For 25 years students, teachers, visitors and geologists have been using the Atlantic Geoscience Society's *Geological Highway Map of Nova Scotia* in classrooms, university courses and in the field. Previous editions have been out of print for two years and a new edition of the map has been needed for some time. Now there is a new, third edition to this popular map, published in June 2005. All editions of the map have been best sellers. Since the first edition was published in 1980 more than 40,000 copies have been distributed.

Geological highway maps are particularly interesting because they assist the user more than regular geological maps. The new edition of the *Geological Highway Map of Nova Scotia* connects the highway system with the distribution of rock units, fossil and mineral collecting sites, rock outcrops and specific points of interest. It provides the latest version of the geology of the province, shows the connection between landforms and geology through block diagrams, and locates many areas for further exploration.

The front of the map provides the user with an overview of the latest interpretation of the province's geology at a scale of 1:640 000. The usual details of road network, villages, towns, cities, rivers and lakes are named and located. Overlying these features is the geology shown by various colours representing distinct formations and groups of rocks. The guide to the geology is the Table of Formations in the lower right of the map. Here four separate columns list the rock units found on the southern mainland, northern mainland, western Cape Breton Island and southeastern Cape Breton Island. Each area has generally had a separate geological history from the Proterozoic to the beginning of the Late Carboniferous related to the formation and movement of distinct terranes. From the Late Carboniferous onward the geological histories are the same.

Superimposed on the geological, cultural and geographic features are 64 Geological Sites of Interest. In a few sentences to a long paragraph, these numbered sites provide details that animate the history of specific areas. Some, such as Site 40, give details of the Cobequid Fault at Parrsboro (see vol. 22, no 3) while another describes a museum (Site 61). Other sites provide a glimpse into the mining history of an area, such as the description of Fourchu Harbour (Site 63). Students of history as well as geology will enjoy these brief descriptions.

Complementing the geological, cultural and geographic features of the map are six block diagrams illustrating a connection between landforms and the underlying geology. With the block diagrams, users are able to understand how differential weathering and erosion can change the landscape. When the information conveyed by these diagrams is coupled with local knowledge of land use, a regional scale of land-use planning is possible.

The reverse side of the map contains more detailed maps and description of selected sites across the province. Eight areas were chosen to represent specific geological features or regions of interest: Joggins, Cabot Trail, Windsor region, Parrsboro to Five Islands shore, Yarmouth, Arisiag, Halifax metro region and Louisbourg National Historic Park. All of these areas have a map and annotations about what to see, do and/or collect.

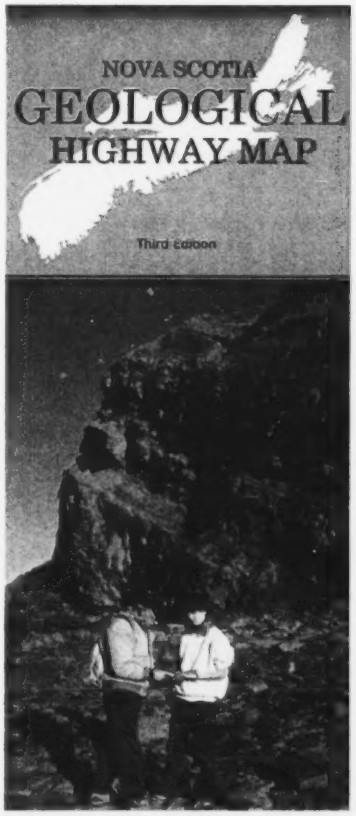
The *Geological Highway Map of Nova Scotia* contains a wealth of information about the natural history of the province. It provides all of the basics that an interested lay person or geologist may need to interpret and enjoy the rocks in the province.

Production of the map represents a four-way partnership between the Nova Scotia Geomatics Centre (Service Nova Scotia and Municipal Relations), Nimbus Publishing Ltd., Communications Nova Scotia and the Atlantic Geoscience Society (AGS). The copyright is held jointly by Communications Nova Scotia and the AGS.

The Atlantic Geoscience Society was formed in 1972 and exists to promote geoscience communication among the private sector, government, industry, universities, schools and the public. It accomplishes this mission through annual meetings, the peer-reviewed journal *Atlantic Geology*, numerous general interest publications, geoscience video productions, field trips, and workshops for teachers.

For anyone interested in the rocks and minerals, fossils and natural history of Nova Scotia, this map is a 'must buy.' It works well with two other publications of the AGS: *Nova Scotia Rocks* (AGS Publication #21) and *The Last Billion Years* (AGS Publication #15). You may purchase the map for $6.95 at museums, university and private book stores, the Nova Scotia Geomatics Centre in Amherst, or from the DNR Library in Halifax.

Howard Donohoe, Jr. and Chris White



Mining Matters for Nova Scotia 2005

Program

Commonwealth Ballroom A and B, The Westin Nova Scotian Hotel, Halifax

Wednesday, November 9

8:30 am - 7:00 pm	Registration (Commonwealth Foyer)
8:30 am - 9:00 am	Coffee and Refreshments (Commonwealth B)
10:00 am - 9:00 pm	Displays Open (Commonwealth B)
8:55 am - 9:00 am	*Welcoming Remarks*, Peter Underwood, Deputy Minister, Nova Scotia Department of Natural Resources (DNR) Session Chair: Fenton Isenor, Mining Society of Nova Scotia
9:00 am - 9:20 am	*Overview of Trends in Canadian Exploration and Mining*, Peter Dimmell, President, Prospectors and Developers Association of Canada
9:20 am - 9:40 am	*Overview of Gold Mineralization in Nova Scotia*, Dan Kontak, DNR
9:40 am - 10:00 am	*Developing Gold Mines in Nova Scotia* , Will Felderhof, Acadian Gold Corp.
10:00 am - 10:20 am	*Orex Exploration Inc. Progress Report*, Jean Lafleur, Orex Exploration Inc.
10:20 am - 10:40 am	Break
10:40 am - 11:00 am	*The Surprising Placer Potential of Nova Scotia Tills in Former Gold Districts*, Ron Mills and Jared Chipman, DNR
11:00 am - 11:20 am	*Structure and Predictability of Meguma Gold Dep*osits, Rick Horne, DNR
11:20 am - 11:40 am	*The Economic Impact of the Minerals Sector in Nova Scotia*, Bob Fraser, Gardner-Pinford Consulting Economists
11:40 am - 12:00 pm	*Of Coal, Gold, Kings, Legislatures and the General Mining Association - An Unusual History of Nova Scotia*, Howard Donohoe, DNR
12:00 pm - 2:00 pm	**Lunch, Harbour Suites A and B, Keynote Speaker Dr. Elisabeth Kosters (Acadia University)**: *Geological and Cultural Ingredients of the Katrina Catastrophe*, Cost $20
2:00 pm - 2:10 pm	*Welcoming Remarks*, Scott Swinden, DNR, Session Chair
2:10 pm - 2:40 pm	*The Legacy of Glacial Lakes in Nova Scotia*, Ralph Stea, DNR
2:40 pm - 3:10 pm	*Drift Exploration Using Indicator Minerals and Till Geochemistry*, Beth McClenaghan, Geological Survey of Canada (Ottawa)
3:10 pm - 3:30 pm	*Nova Scotia Gold Grain Study*, Terry Goodwin, DNR
3:30 pm - 3:50 pm	Break
3:50 pm - 4:10 pm	*Accessing Mineral Resources Branch Digital Geoscience Data and Information*, Brian Fisher, DNR
4:10 pm - 4:30 pm	*Overview of Bedrock and Surficial Mapping Projects and Geoche*mistry, Mike MacDonald, DNR
4:30 pm - 4:50 pm	*Overview of Mineral Deposit Projects*, Bob Ryan, DNR
5:00 pm	**Reception, hosted by the Hon. Richard Hurlburt, Minister of Natural Resources**, Cost $10

Mining Matters for Nova Scotia 2005 (continued)

Thursday, November 10

8:30 am - 12:00 pm	Registration
8:30 am - 3:00 pm	Displays Open (Commonwealth A)
8:30 am - 9:00 am	Coffee and Refreshments
8:55 am - 9:00 am	*Welcoming Remarks*, Mike Cherry, DNR, Session Chair
9:00 am - 9:20 am	*A Brief Review of Groundwater Resources in Nova Scotia*, Heather Cross and John Drage, Nova Scotia Department of Environment and Labour
9:20 am - 9:50 am	*Mitigation of Coastal Hazards: Adaptation to Rising Sea Levels, Storm Surges, and Shoreline Erosion*, Charles O'Reilly, National Hydrographic Service
9:50 am - 10:20 am	*Arsenic and Mercury Contamination from Historical Gold Mine Tailings in Nova Scotia*, Mike Parsons, Geological Survey of Canada (Atlantic)
10:20 am - 10:40 am	*Naturally Occurring Radionuclides in Nova Scotia's Rocks, Water and Air*, George O'Reilly, DNR
10:40 am - 11:00 am	Break
11:00 am - 11:20 am	*Triggering Mechanisms of Debris Avalanches in the Central Cape Breton Highlands*, Phil Finck, DNR
11:20 am - 11:40 am	*Using LIDAR to Map the North Mountain Basalts*, Tim Webster, Centre of Geographic Sciences
11:40 am - 12:00 pm	*The North Mountain Basalt: a Walk Through a 201 Million Year Old Volcanological Paradise in the Jurassic Park of Southern Nova Scotia*, Dan Kontak, DNR
12:00 pm - 2:00 pm	**Lunch, Atlantic Ballroom, Keynote Speaker Tim Bernard, Mi'Kmawey Debert Cultural Centre:** *Tan Wetapesksi'k (Where we come from)*, Cost $20.
12:00 pm - 3:00 pm	Cash Bar, Commonwealth Ballroom A
3:00 pm	Conference Closed

Saturday, November 12

Post-conference Field Trip

A Visit to the Jurassic Park of Southern Nova Scotia: Volcanological Wonders of the North Mountain Basalt, Field Trip Leaders Dan Kontak and Rick Horne, Cost $10 (includes lunch).

Photo shows the North Mountain at Cape Blomidon. Photo by Shirley Robb, Communications Nova Scotia.

Geological Services Division Welcomes Back John MacNeil

In the winter issue of 2003 (*Nova Scotia Minerals Update*, v. 20, no. 1), the Geological Services Division bid a reluctant farewell to Geologist/GIS Specialist John MacNeil. John was hired in November 2000 to work on the federal-provincial Targeted Geoscience Initiative (Phase 1) project in Cape Breton Island (see v. 18, no. 3). When the project ended in 2003, John accepted a position as GIS co-ordinator for the department's Regional Services Branch (Western Region) in Bridgewater. This summer the division was able to fill a new position for a Geologist/GIS Specialist in Halifax, and John's training and experience made him the ideal candidate for the job.

John completed his Bachelor of Science degree with a major in geology at St. Francis Xavier University in 1986. He spent the next six years working for Seabright Resources, and subsequently Westminer, in Nova Scotia and Newfoundland. In 1992 John enrolled in the GIS program at the Nova Scotia College of Geographic Sciences (COGS) in Lawrencetown, Annapolis County. After completing the COGS program in 1993, he worked for GEODAT Information Services in Fredericton, New Brunswick, until he accepted the position with DNR in 2000.

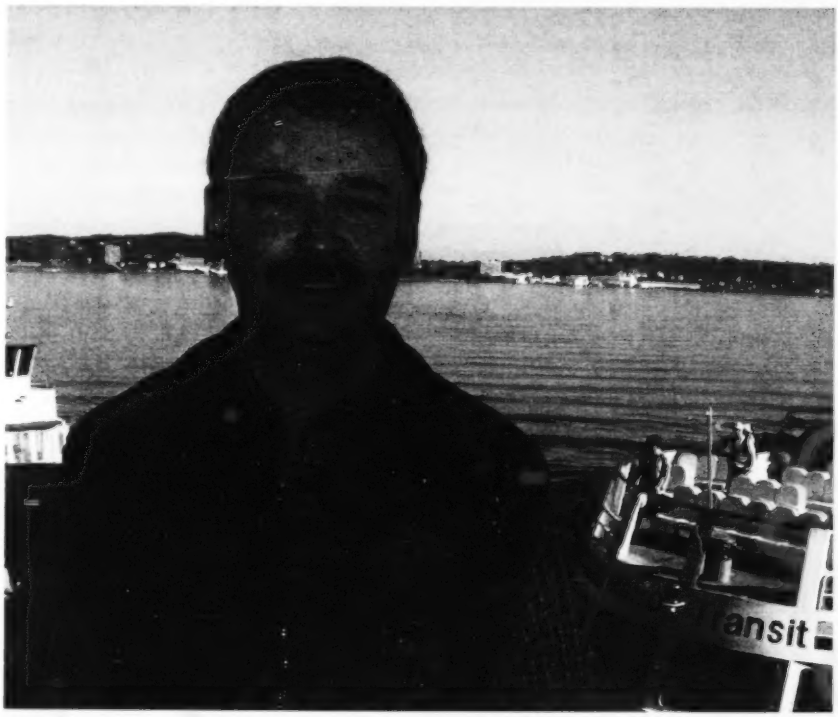
With an overwhelming demand for digital information services, both by staff and clients, the division is very pleased to welcome John once again, this time (hopefully) on a permanent basis.

Doug MacDonald

July - September Open Assessment Reports

Report Number	NTS	Licensee
AR ME 2001-049	21A/16D	True Metallic Exploration
AR ME 2003-044	20O/16D	O'Sullivan, J R
AR ME 2003-046	11E/05D	Allen, L J
AR ME 2003-048	11E/06D	Candor Ventures Corporation
AR ME 2003-049	11D/15C	MacDonald, R H
AR ME 2003-050	11F/05B	Acadian Gold Corporation
AR ME 2003-051	21A/07C	Crouse, A R
AR ME 2003-052	11E/02B	Allen, L J
	11E/03A	
AR ME 2003-053	11E/05A	Titanium Corporation
AR ME 2003-055	11E/05C	Allen, L J
AR ME 2003-056	11D/16C	Nycon Resources Incorporated
AR ME 2003-057	11E/03C	Titanium Corporation
AR ME 2003-058	11D/16C	Grant, S
AR ME 2003-059	11D/16C	Grant, S
AR ME 2003-060	1E/03B	Findley, C

Susan Saunders and Norman Lyttle



Geologist/GIS Specialist John MacNeil on the Halifax Waterfront.

DNR Participates in 62nd Annual Mines Ministers' Conference

The 62nd annual Mines Ministers' Conference was held in St. Andrews, New Brunswick, on September 19 and 20. This annual meeting provides an opportunity for Canada's federal, provincial and territorial ministers responsible for mines to learn of pressing issues from leaders of the Canadian mining industry and to develop an action plan to deal with these issues. Past conferences have produced agreements of significance to mineral exploration across Canada. Of special mention are the Whitehorse Mining Initiative, which provides a vision for a Canadian mining industry that is socially, economically and environmentally sustainable and was signed by representatives of government, industry, first nations and environmental groups, and the Intergovernmental Geoscience Accord, which provides guidelines for cooperative geoscience programming by the federal, provincial and territorial geological surveys.

Nova Scotia's delegation to the 2005 meeting comprised Deputy Minister Peter Underwood, Scott Swinden, Mike Cherry, Don Jones and Mike MacDonald from DNR's Mineral Resources Branch and Fenton Isenor, President of the Mining Society of Nova Scotia. Minister Richard Hurlburt was unfortunately unable to attend, as were representatives of the Chamber of Mineral Resources of Nova Scotia.

Ministers heard three presentations on the status of Canada's mining industry, from the Mining Association of Canada/Canadian Mineral Industry Federation, the Prospectors and Developers Association of Canada and the Canadian Aboriginal Mining Association. These presentations stressed a number of common messages, including:

- While exploration in Canada for gold and diamonds is healthy and resulting in new discoveries, Canada's reserves of base metals are declining rapidly. Continuation of this decline will affect the operations of mines, smelters and refineries, many of which underpin the economies of northern and remote communities. Immediate action is required by governments to stimulate discovery of new ore bodies.
- All aspects of the mining industry, from individual prospector to company or government geologists, to miners and smelter workers, face an imminent and dire shortage of skilled and experienced workers. A comprehensive human resource strategy is urgently required to ensure that adequate replacements are available for the large numbers of current workers who will retire in the next decade.
- Canada continues to have complex and confusing systems of tax incentives, securities regulation and environmental standards that impede mineral exploration and development. Governments must take the lead in resolving these issues if the industry is to thrive.

Recommendations to address these issues included:

- A 20% federal investment tax credit for deep drilling was suggested to encourage exploration below 300 metres. This was considered especially pertinent to exploration below current base metal mines, where new discoveries would extend the life of existing mines.
- While commending the federal government for its funding of Phase 3 of the Targeted Geoscience Initiative ($25 million over 5 years), industry urged all ministers to commit to funding the Collaborative Geoscience Mapping Strategies. This broad-based initiative calls for both levels of government to commit to a 10 year, $250 million federal-provincial/territorial program of geoscience investigations.
- Industry called for the extension of the federal Investment Tax Credit for Exploration (ITCE) program, in a series of 3 year phases supplemented by annual reviews of the program's benefits.
- The federal government was urged to modernize definitions of Canadian Exploration Expenses (CEE) and Canadian Development Expenses (CDE) under the Income Tax Act. Specific recommendations were to treat the cost of exploration in the vicinity of former or current producing mines and the costs of community consultation, baseline environmental studies and feasibility studies as Canadian Exploration Expenses.
- Rationalization of securities regulations under the umbrella of a single national regulator was strongly urged to encourage investment in mineral exploration.
- To address imminent problems of shortages of trained workers, industry recommended that governments take action to support the recommendations of the Mining Industry Training Adjustment Council (MITAC) sector study of human resource needs. Supplemental to this recommendation was a request from the First Nations that governments and industry do more to integrate aboriginals into all parts of the mining work force.

The 2005 Mines Ministers' Conference concluded with private deliberations by ministers and their senior officials about how to respond to these requests and recommendations.

Mr. Peter Dimmell, President of the Prospectors and Developers Association of Canada, will speak at this year's Mining Matters for Nova Scotia conference (see program on p. 4-5) about his association's presentation to ministers and the response anticipated from them. Additional information about the conference can be found elsewhere in this issue of the *Nova Scotia Minerals Update*. Interested readers can find more information about the 2005 Mines Ministers' Conference, including the industry submissions, on Natural Resources Canada's website at http://www.nrcan.gc.ca/mms/mmc/index_e.htm.

Mike Cherry

First Atlantic Stone Carving Symposium a Great Success

The first Atlantic Stone Carving Symposium (see vol. 22, no. 3) was held at the Inverness County Centre for the Arts (ICCA) from August 28th to September 10th. Eight celebrated stone carvers sculpted art works from rough blocks of red marble. Individual marble blocks ranging from 150 kg to more than 1 tonne were quarried in the MacLeod Resources marble quarry in River Denys.

In recognition of the event, Natural Resources Minister Richard Hurlburt noted that "Nova Scotia has the two essential elements that make its artistic contributions world class: high-quality marble that can compete with any from around the world, and a vibrant arts community that can turn the stone into such enriching works of art."

The featured artists at the event included Nova Scotians John Greer and Rudolph Hennigar, Kathryn Ellis and Kent LaForme from British Columbia, Gerard Kelly from Newfoundland and Labrador, Laura Moore from Ontario, Vanessa Paschakarnis from Texas, and Niall Donaghy from Ontario. By all accounts, the artists enjoyed the experience of creating works of art from the richly textured, multicoloured red marble, especially in the beautiful setting of Inverness, along the west coast of Cape Breton Island.

"The Inverness County Centre for the Arts deserves high praise for organizing and hosting this symposium," said Rodney MacDonald, minister of Tourism, Culture and Heritage, who officially opened the symposium on Sunday, August 28th, during a community barbeque. "It is a tremendous opportunity for Nova Scotians and visitors to see these accomplished artists at work."

The symposium featured evening lectures and slide shows by the visiting artists on Tuesdays and Thursdays during the event. Those who attended the lectures had a rare opportunity to get greater insights into the works of each artist.

Attendance at the symposium was estimated by ICAA at 100 to 200 visitors per day. Guests were from across Nova Scotia and Canada, the USA and Europe. Many visitors took the time to complete a questionnaire and virtually all had glowing compliments for the event.

A gala closing event was held on Friday, September 10th, at the ICCA and featured an exhibition of completed sculptures. Renowned singer-songwriter Laura Smith performed at the closing ceremonies, which were attended by several hundred people. The ICCA was very pleased with the success of the event and is exploring opportunities to host additional Atlantic Stone Carving Symposia in the future.

Mike MacDonald

Blocks of Nova Scotia marble were sculpted over two weeks and presented at a gala event in the Inverness County Centre for the Arts. Photos by Shirley Robb, Communications Nova Scotia.

Dates to Remember

October 28 to 30, 2005
Atlantic Universities Geological Conference (AUGC), Memorial University, St. John's , Newfoundland. For more information e-mail augc2005@mun.ca.

November 3 to 5, 2005
Review of Activities, Geological Survey of Newfoundland and Labrador, Newfoundland Department of Natural Resources, and Fall Meeting of the Newfoundland Branch CIM, Delta St. John's Hotel, St. John's, Newfoundland. For more information contact Norm Mercer (709-729-6193).

November 7 to 9, 2005
Exploration and Mining New Brunswick 2005, Delta Hotel, Fredericton, New Brunswick. For more information e-mail: carol.mcneil-dobbelsteyn@gnb.ca

November 9 and 10, 2005
Mining Matters 2005, Westin Nova Scotian Hotel, Hollis Street, Halifax, Nova Scotia. For more information contact Mike MacDonald at 902-424-2523.

January 23 to 26, 2006
23rd Annual Mineral Exploration Roundup, Westin Bayshore Resort and Marina, Vancouver, British Columbia. Theme for conference "Striving for Excellence in Exploration". For more information contact Conference Manager Colleen Giroux Schmidt, BC and Yukon Chamber of Mines, 604-689-5271 ext.23, or http://www.chamberofmines.bc.ca/default.htm#.

February 3 and 4, 2006
Atlantic Geoscience Society, 32nd Colloquium and Annual General Meeting: Current Research in the Atlantic Provinces. The Old Orchard Inn, Wolfville, Nova Scotia. For more information see the AGS web site: http://ags.earthsciences.dal.ca/ags.htm.